

9th Edition Stretch Code Modeling Analysis

2000 sq.ft. 3 BR Single Family Townhome – Elec. Heat Pump
Worcester, MA



HERS Index (ERI)	
Target	55
Example Base	71
Example Stretch	55

Costs and Benefits to Meet Stretch Code

		COSTS	BENEFITS	NET	
BUILDER	Adjustments + HERS Rater Fee		Rebates ¹	Cost Compared to Base Code	
		+\$ (2,618)	-\$ 4,458	\$1,840	
HOMEBUYER	Change to Downpayment ³	Change to Annual Mortgage Payment ³	Estimated Energy Cost Savings per Year ²	Year 1 Cash Flow	Year 2+ Cash Flow
	-\$ 184	-\$ 146	-\$ 696	\$1,026	\$842

1 – Incentives are determined using the Blended Savings Approach calculator. Savings compared to MA reference home.

BSA Incentive = \$0.35 * kWh savings + \$35 * MMBtu savings + \$3000 * 0.xx percent savings (single family home)

\$3,000 incentive available from Massachusetts DOER Alternative Energy Portfolio Standard

2 – Energy costs are based on 19 cents/kWh, \$0.97/therm, \$2.88 gal propane, \$2.58 gal oil. Savings are compared with Base Code home

3 – 30-year mortgage assumes 10% down payment at 4% APR

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Breakdown of Construction Costs to Meet Stretch Code

FEATURE	Base Code	Stretch Code	Construction Cost
HERS RATING	71	55	\$500
WINDOWS (U-VALUE/SHGC)	.30/.30	.27/.30	\$363
DHW	0.95 EF Tank Electric	3.24 EF Heat Pump DHW	\$660
HEATING	8.5 HSPF / 15 SEER Heat Pump	10.2 HSPF / 20.5 SEER Heat Pump	\$895
COOLING			
DUCT LEAKAGE TO OUTSIDE	4 CFM25 / 100 CFA	2 CFM25 / 100 CFA	\$200
FOUNDATION	Unconditioned, uninsulated basement	<i>No change required</i>	\$0
FLOOR	R38 fiberglass Grade 1	<i>No change required</i>	\$0
WALLS	R21 fiberglass Grade 1	<i>No change required</i>	\$0
HIGH EFFICACY LIGHTING	100% CFL	<i>No change required</i>	\$0
CEILING – FLAT	R-50 blown in cellulose	<i>No change required</i>	\$0
AIR INFILTRATION	3.0 ACH50	<i>No change required</i>	\$0
TOTAL			\$2,618